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A NEW OBSTETRIC FORCEPS.

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(With woodcut.)



THIS instrument is designed for application to the sides of the child's head before forward rotation of the occiput has taken place.

The difficulty of adapting the blades of the ordinary forceps to the biparietal diameter of the head, and in some cases the impossibility of so doing, led to its construction.

The idea of altering the classic forceps in such manner that the pelvic curve of the instrument would be placed on the flat surface instead of the edge, was entertained for some time before taking steps to have such an instrument constructed. During the winter of 1888-'89, I consulted Messrs. Tiemann & Co., of New York, and, after experimenting and altering the model made, I finally adopted the design here presented.

It is practically a straight forceps with the pelvic curve on the flat, if I may be permitted to use such an inaccurate expression. Not having, at that time, referred to the literature of the subject, I was ignorant of what attempts had been made in this direction.

*History of Antero-posterior Forceps.*—In 1805, Uytterhoeven, of Brussels, conceived the idea of having constructed a pair of obstetric forceps curved upon the flat, and having a long posterior and a short anterior blade. It was designed to seize the sides of the head when placed transversely at the superior strait. He introduced the anterior blade first, directing it along the antero-lateral wall of the pelvis and adjusting it behind the pubic arch. The posterior blade was next introduced opposite a sacro-iliac symphysis.

The effort of Uytterhoeven failed to meet approval and was forgotten.

The same fate awaited M. Baumers, of Lyons, who in 1849,

*presented by the author -*



and probably without knowledge of Uytterhoeven's instrument, had a forceps made on the same principle.

Tarnier<sup>1</sup> also mentions that Leake designed a forceps having attached to it a third blade which was intended for application in front.

This, as far as I was able to ascertain, is all that had been accomplished in the way of constructing an antero-posterior forceps.

Very recently, however, two other instruments of this class have come to notice.

Dr. Samuel Sloan, of Glasgow, presented to the Section of Obstetric Medicine,<sup>2</sup> at the last annual meeting of the British Medical Association, a paper entitled "Antero posterior Compression Forceps for Application at the Brim of Flat Pelves." The instrument which Dr. Sloan presented was a powerful



compressor, and he devised it for use in cases of flat pelvis when the only alternative was craniotomy. In the discussion which followed the reading of the above paper, Dr. W. L. Reed, of the same city, showed a pair of antero-posterior forceps which he stated he had been using with satisfactory results for seven or eight years.

The forceps which I desire to bring to the notice of the profession consists of a long posterior and a short anterior blade.

The posterior blade presents but one curve, a cephalic and a pelvic curve combined.

The anterior blade has its two curves in opposite directions. The concave surface of the cephalic curve looks backwards, and that of the pelvic curve forwards.

The shape of the blades and the distance between them are the same as White's modification of Hodge. The shanks are long

<sup>1</sup> "De l'application du forceps au détroit supérieur." Par le Dr. Gabriel Lepage. Paris, 1888.

<sup>2</sup> British Med. Journal, Feb. 2d, 1889.

and placed laterally. Siebold's lock is employed. The handles are constructed of hard rubber.

The length of the instrument, measured in a straight line from the tip of the posterior blade to the end of the handle, is sixteen inches. From the same point to the lock is nine and one-half inches. The length of the handle is five inches.

*The Use of Antero-posterior Forceps.*—The purpose for which this variety of forceps is constructed has been explained already. Either it has failed to fulfil that purpose in the past, or the classic forceps has proved itself a more effective instrument in all cases.

The cause of failure of the instrument designed by Baumers was evidently its faulty construction. The representations of this forceps depict an exceedingly crude-looking instrument having an exaggerated pelvic curve. The concavity of the long posterior blade looks downwards and forwards, and overhangs the anterior blade, the concavity of which presents upwards and backwards.

In Witkowski's<sup>2</sup> recent work will be found drawings of this forceps, as well as the comparatively superior instrument of Uytterhoeven.

In criticising these forceps, Poulet<sup>3</sup> said : "No one claims to have ever succeeded in applying them to the living child ; the instrument is therefore purely a theoretical one."

Was that distinguished accoucheur ignorant of what his compatriot, Cazeaux, had said of the forceps of Baumers ? "To render the biparietal application possible," wrote the latter, "M. Baumers, of Lyons, has constructed a new forceps, *which I have had occasion to try, and which appears to me to overcome the difficulty mentioned.* I am convinced that the biparietal application of the blades, which is impossible with the ordinary forceps, is sometimes easy with that of M. Baumers, and I think it right to recommend their application in the transverse position."

The compression of the head with forceps strictly in the antero-posterior direction and coincident with that exercised by the pelvis, Poulet mentions as representing a useful idea if it can be accomplished practically.

<sup>1</sup> See Charpentier, "Practical Treatise on Obstetrics."

<sup>2</sup> "Histoire des Accouchements."

<sup>3</sup> Lepage, *ibid.*, p. 16.



The experiments made by Dr. Sloan with his instrument, and the statement of Dr. Reed that he had successfully employed such a forceps for a number of years, would indicate that it can be, and has been, accomplished.

As far as the instrument I offer to the profession is concerned, I can testify that it is applied to the sides of the head with as much ease as the ordinary forceps is inserted to the sides of the mother's pelvis, and with more facility than the latter is often adjusted to the biparietal diameter of the head when transverse or oblique.

When introducing the blades, I prefer to adjust the anterior first. The posterior blade should always be passed opposite one or the other sacro-iliac synchondrosis, and then, by a sliding movement, brought into position in front of the sacrum. Any attempt to insert this blade in position by passing it up directly in front of the sacrum might cause the tip to injure the child's head or the soft parts of the mother.

When the instrument is applied to the head in the pelvic cavity, with the occiput to the right or left, little effort is required to rotate the occiput forwards. In many cases, all that is necessary is to start rotation and it will be completed without further assistance.

When applied to the sides of the head, situated transversely at or above the superior strait, no effort should be made to cause forward rotation of the occiput until the head has been brought well down into the pelvic canal. It should be remembered that rotation is one of the terminal movements of the head—a movement that is often deferred until the influence of the perineal muscles is felt. Premature attempts to bring the occiput forwards will only result in harm.

The traction rod and compression screw are intended for use in high application of the forceps. After the blades have been adjusted, and the amount of compression necessary been secured by the screw, the hook at the end of the rod is fastened into the fenestrum on the anterior blade. Traction is then made with the right hand, while the left grasps the handle of the forceps merely to steady it.

After the head has been brought through the inlet, the tractor can be removed and the method of Pajot adopted by grasping the shank with one hand and the handle with the other.



